

CLAIMS

1. A computer implemented method, comprising:
accessing an electronic document using a user application, the electronic document
including a digital signature module; and
5 using the digital signature module to perform one or more digital signature operations
on the electronic document in the user application.
2. The method of claim 1, wherein using the digital signature module includes:
validating the digital signature module; and
10 using the digital signature module to perform digital signature operations only if the
digital signature module is validated.
3. The method of claim 1, wherein:
using the digital signature module includes signing the electronic document.
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4. The method of claim 1, wherein:
using the digital signature module includes authenticating a digital signature in the
electronic document.
- 20 5. The method of claim 1, wherein:
using the digital signature module includes using the digital signature module running
on a server.
6. The method of claim 1, wherein:
25 including the digital signature module includes including a reference to the digital
signature module.
7. The method of claim 1, wherein using the digital signature module to perform a

digital signature operation includes:

receiving a request to perform a digital signature operation;
determining whether the requested digital signature operation is authorized;

and

5 if the digital signature operation is authorized, using the digital signature module to perform the requested digital signature operation.

8. The method of claim 7, wherein:

determining whether the requested digital signature operation is authorized includes
10 determining whether the requested digital signature operation is authorized based on rights information associated with the digital signature module, the user application, or the electronic document.

9. The method of claim 8, wherein:

15 the rights information is operable to specify the digital signature operations that can be performed on the electronic document.

10. The method of claim 9, wherein:

the rights information is operable to specify constraints on the digital signature
20 operations that can be performed on the electronic document.

11. The method of claim 1, wherein:

using the digital signature module includes performing a digital signature operation
on a portion of the electronic document or on a user added content portion of the electronic
25 document.

12. The method of claim 1, further comprising:

receiving input adding content to the electronic document in the user application,
wherein using the digital signature module includes performing a digital signature operation

on the added content.

13. The method of claim 1, further comprising:

receiving input modifying content of the electronic document in the user application,
5 wherein using the digital signature module includes performing the digital signature
operations on the modified content.

14. The method of claim 1, wherein:

the electronic document is a PDF document.

15. A computer implemented method, comprising:

embedding a digital signature module in an electronic document, the digital signature
module being operable to perform one or more digital signature operations on the electronic
document;

15 providing a first version of the electronic document to a recipient, the first version
including the embedded digital signature module; and

receiving a second version of the electronic document, the second version including
digital signature information indicating that a digital signature operation has been performed
on the electronic document using the embedded digital signature module.

16. The method of claim 15, wherein:

the digital signature module is signed using a digital signature.

17. The method of claim 15, further comprising:

25 embedding rights information in the electronic document, the rights information being
operable to enable a set of rights required to perform the digital signature operations.

18. An electronic document, comprising:
electronic content; and
a digital signature module, the digital signature module being operable upon loading
5 to perform digital signature operations on the electronic content.

19. The electronic document of claim 18, further comprising:
rights information, the rights information being operable to enable one or more
operations on the electronic document, the one or more operations including using the digital
10 signature module to sign the electronic document.

20. A computer implemented method, comprising:
receiving a signed electronic document, the electronic document including a digital
signature module and a digital signature generated by the digital signature module;
15 accessing the electronic document in a user application; and
validating the digital signature using the digital signature module in the user
application.

21. The method of claim 20, further comprising:
20 performing a digital signature operation embedding digital signature information in
the electronic document, the digital signature operation being performed using the digital
signature module after optionally modifying the electronic document; and
transmitting the electronic document, including the embedded digital signature
module and the digital signature information.

22. The method of claim 20, wherein:
receiving a signed electronic document includes receiving the signed electronic
document as a user in a multi-user sequence defined by a workflow; and
transmitting the electronic document includes transmitting the electronic document to
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another user in the workflow.

23. The method of claim 20, wherein:

performing the digital signature operation includes performing the digital signature
5 operation on a portion of the electronic document; and

transmitting the electronic document includes transmitting only the portion of the
electronic document on which the digital signature operation is performed.

24. The method of claim 20, further comprising:

10 receiving input adding content to the electronic document in the user application,
wherein using the digital signature module includes performing a digital signature operation
on the added content.

25. The method of claim 20, further comprising:

15 receiving input modifying content of the electronic document in the user application
wherein using the digital signature module includes performing a digital operation on the
modified content.

26. A computer program product implementing a user application, tangibly embodied in a
computer readable medium, the computer program product comprising instructions operable
20 to cause data processing equipment to:

access an electronic document, the electronic document including a digital signature
module; and

use the digital signature module to perform one or more digital signature operations
on the electronic document.

25 27. The computer program product of claim 26, wherein the instructions for using the
digital signature module cause the data processing equipment to:

validate the digital signature module; and

use the digital signature module to perform digital signature operations only if the

digital signature module is validated.

28. The computer program product of claim 26, wherein the instructions for using the digital signature module cause the data processing equipment to:

5 sign the electronic document.

29. The computer program product of claim 26, wherein the instructions for using the digital signature module cause the data processing equipment to:

authenticate the electronic document.

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30. The computer program product of claim 26, wherein the instructions for using the digital signature module cause the data processing equipment to:

use the digital signature module running on a server.

15 31. The computer program product of claim 26, wherein including the digital signature module includes including a reference to the digital signature module.

32. The computer program product of claim 26, wherein the instructions for using the digital signature module cause the data processing equipment to:

20 receive a request to perform a digital signature operation;

determine whether the requested digital signature operation is authorized;

and

if the digital signature operation is authorized, use the digital signature module to perform the requested digital signature operation.

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33. The computer program product of claim 32, wherein the instructions for determining whether the requested digital signature operation is authorized cause the data processing equipment to:

determine whether the requested digital signature operation is authorized based on

rights information associated with the digital signature module, the user application, or the electronic document.

34. The computer program product of claim 33, wherein the rights information is
5 operable to specify the digital signature operations that can be performed on the electronic document.

35. The computer program product of claim 34, wherein the rights information is
operable to specify constraints on the digital signature operations that can be performed on
10 the electronic document.

36. The computer program product of claim 26, wherein the instructions for using the
digital signature module cause the data processing equipment to:
perform a digital signature operation on a portion of the electronic document or on a
15 user added content portion of the electronic document.

37. The computer program product of claim 26, further comprising receiving input adding
content to the electronic document in the user application, wherein the instructions for using
the digital signature module cause the data processing equipment to:
20 perform a digital signature operation on the added content.

38. The computer program product of claim 26, further comprising receiving input
modifying content of the electronic document in the user application, wherein the instructions
for using the digital signature module cause the data processing equipment to:
25 perform a digital signature operation on the modified content.

39. The computer program product of claim 26, wherein:
the electronic document is a PDF document.

40. A computer program product tangibly embodied in a computer readable medium, the computer program product comprising instructions operable to cause data processing equipment to:

embed a digital signature module in an electronic document, the digital signature module being operable to perform one or more digital signature operations on the electronic document;

provide a first version of the electronic document to a recipient, the first version including the embedded digital signature module; and

receive a second version of the electronic document, the second version including digital signature information indicating that a digital signature operation has been performed on the electronic document using the embedded digital signature module.

41. The computer program product of claim 40, wherein:
the digital signature module is signed using a digital signature.

42. The computer program product of claim 40, further comprising instructions operable to cause the data processing equipment to:

embed rights information in the electronic document, the rights information being operable to enable a set of rights required to perform the digital signature operations.

43. A computer program product implementing a user application, tangibly embodied in a computer readable medium, the computer program product comprising instructions operable to cause data processing equipment to:

receive a signed electronic document, the electronic document including a digital signature module and a digital signature generated by the digital signature module;

access the electronic document in the user application; and

validate the digital signature using the digital signature module in the user application.

44. The computer program product of claim 43, further comprising instructions operable to cause the data processing equipment to:

perform a digital signature operation embedding digital signature information in the electronic document, the digital signature operation being performed using the digital

signature module after optionally modifying the electronic document; and

transmit the electronic document, including the embedded digital signature module and the digital signature information.

45. The computer program product of claim 43, wherein:

the instructions for receiving a signed electronic document cause the data processing equipment to receive the signed electronic document as a user in a multi-user sequence defined by a workflow; and

the instructions for transmitting the electronic document cause the data processing equipment to transmit the electronic document to another user in the workflow.

46. The computer program product of claim 43, wherein:

the instructions for performing the digital signature operation cause the data processing equipment to perform the digital signature operation on a portion of the electronic document; and

the instructions for transmitting the electronic document cause the data processing equipment to transmit only the portion of the electronic document on which the digital signature operation is performed.

47. The computer program product of claim 43, further comprising instructions operable to cause the data processing equipment to receive input adding content to the electronic document in the user application, wherein the instructions for using the digital signature module cause the data processing equipment to perform a digital signature operation on the added content.

48. The computer program product of claim 43, further comprising instructions operable to cause the data processing equipment to receive input modifying content of the electronic document in the user application, wherein the instructions for using the digital signature module cause the data processing equipment to perform a digital signature operation on the modified content.

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